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Declaration under Rule 4.17:
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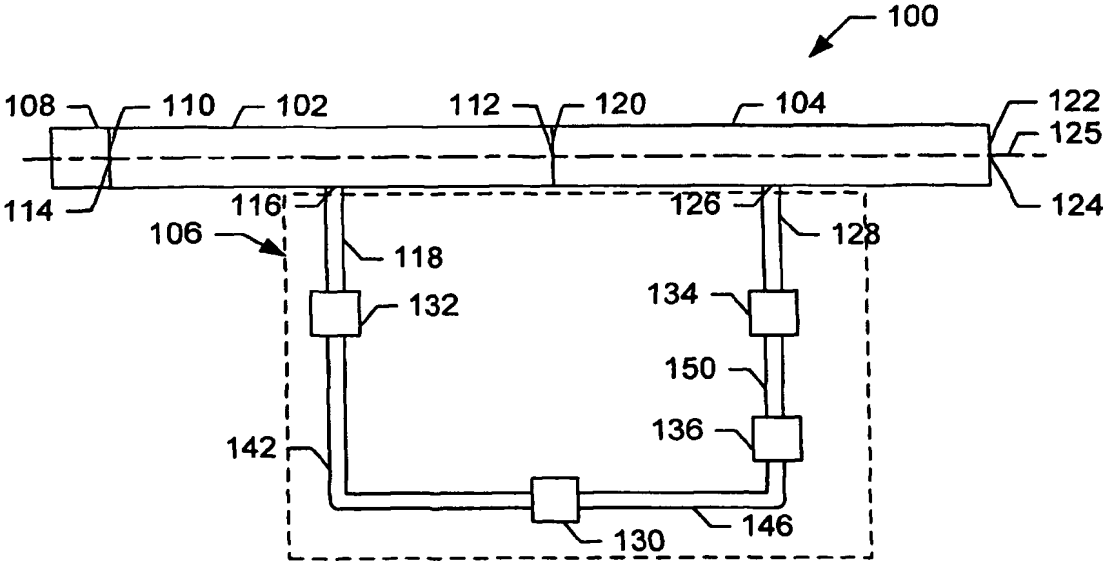
[Continued on next page]

(54) Title: PARTICLE ACCELERATOR HAVING WIDE ENERGY CONTROL RANGE



(57) Abstract: A particle accelerator system for producing a charged particle beam having pulses of charged particles that have different energy levels from pulse to pulse. The system enables independent adjustment of the RF power delivered to first and second accelerating sections thereof without adjustment of the RF power generated by an RF source. Such independent adjustment enables the RF power provided to the first accelerating section to be maintained at a level appropriate for optimal particle capturing therein and for producing a tightly bunched beam of particles having different energy levels from pulse to pulse, while enabling the RF power provided to the second accelerating section to be varied in order to vary the energy levels of the charged particles of the charged particle beam from pulse to pulse.

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